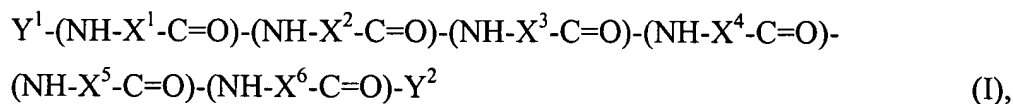


**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Original) A compound of formula (I)



wherein Y<sup>1</sup> is either

- a) a hydrogen or
- b) a methyl group or
- c) an acetyl group or
- d) is characterized by a backbone consisting of a chain of 1 to 32 carbon atoms,

wherein (NH-X<sup>1</sup>-C=O) is a basic amino acid residue, preferably

- a) L-arginine or
- b) D-arginine or
- c) L-lysine or
- d) D-lysine or
- e) L-ornithine or
- f) D-ornithine,

wherein (NH-X<sup>2</sup>-C=O) is a cyclic, nonpolar amino acid, preferably

- a) L-cyclohexylalanine or
- b) D-cyclohexylalanine or
- c) L-cyclohexylglycine or
- d) D-cyclohexylglycine,

wherein (NH-X<sup>3</sup>-C=O) is any arbitrary D- or L-amino acid, preferably

- a) L-norleucine or

- b) D-norleucine or
- c) L-leucine or
- d) D-leucine or
- e) L-isoleucine or
- f) D-isoleucine or
- g) L-cyclohexylalanine or
- h) D-cyclohexylalanine or
- i) L-cyclohexylglycine or
- j) D-cyclohexylglycine or
- k) L-proline or
- l) D-proline or
- m) L-aspartic acid or
- n) D-aspartic acid or
- o) L-glutamic acid or
- p) D-glutamic acid,

wherein (NH-X<sup>4</sup>-C=O) is a cyclic amino acid, preferably

- a) L-cyclohexylalanine or
- b) D-cyclohexylalanine or
- c) L-cyclohexylglycine or
- d) D-cyclohexylglycine or
- e) L-tyrosine or
- f) D-tyrosine or
- g) L-phenylalanine or
- h) D-phenylalanine,

wherein (NH-X<sup>5</sup>-C=O) is an amino acid with a polar side chain, preferably

- a) L-glutamine or
- b) D-glutamine or
- c) L-ornithine or
- d) D-ornithine or

- e) L-glutamic acid or
- f) D-glutamic acid or
- g) L-arginine or
- h) D-arginine or
- i) L-lysine or
- j) D-lysine or
- k) L-asparagine or
- l) D-asparagine or
- m) L-aspartic acid or
- n) D-aspartic acid or
- o) is replaced by a chemical bond,

wherein  $(\text{NH}-\text{X}^6-\text{C}=\text{O})$  is any arbitrary D- or L-amino acid, preferably

- a) L-arginine or
- b) D-arginine or
- c) is replaced by a chemical bond,

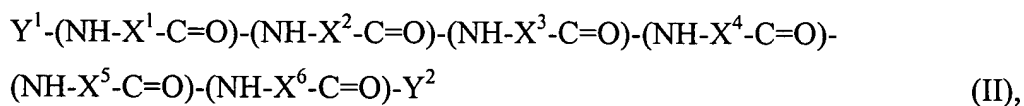
wherein  $\text{Y}^2$  is either

- a) an OH group (the C-terminal amino acid has a terminal carboxylic acid group) or
- b) an amino group (the carboxylic acid group in the C-terminal amino acid is replaced by an amide group) or
- c) a hydrogen (the carboxylic acid group in the C-terminal amino acid is replaced by an aldehyde group) or
- d) 7-amido-4-methylcoumarin (combined through the carboxylic acid group) or
- e) para-nitroanilide (combined through the carboxylic acid group) or
- f) is replaced by a connecting chain containing 1 to 35 atoms,

or is a molecule shortened at the C-terminus and/or at the N-terminus by no fewer than one amino acid, and pharmaceutically acceptable salts thereof.

2.- 16. (Canceled).

17. (Original) A medication, comprising one or more compounds according to claim 1 and a component selected from the group consisting of conventional carriers, auxiliaries, additives, and combinations thereof.
18. (Original) A diagnostic composition, comprising one or more compounds according to claim 1.
19. (Original) A method for thrombin inhibition, inhibition of fibrin formation, and for the inhibition of agglutinative thrombus formation in human and animals, which method comprises administering an effective amount of a compound according to claim 1.
20. - 22. (Canceled).
23. (Original) A method for thrombin inhibition in human and animals, which method comprises administering an effective amount of a compound according to claim 1.
24. (Original) A pharmaceutical composition comprising an effective thrombus-preventing amount of a compound according to claim 1 and a pharmaceutically acceptable carrier.
25. (Original) A diagnostic method for thrombin inhibition in humans and mammals, which method comprises administering an effective amount of a compound according to claim 1.
26. (Original) A compound of formula (II)



wherein  $Y^1$  is either

a) a hydrogen or  
b) a methyl group or  
c) an acetyl group or  
d) is characterized by a backbone consisting of a chain of 1 to 32 carbon atoms,  
wherein  $(\text{NH}-\text{X}^1-\text{C}=\text{O})$  is a D- or L-amino acid, preferably

- a) valine or
- b) alanine or
- c) leucine or
- d) isoleucine or
- e) norleucine or
- f) aspartic acid or
- g) glutamic acid or
- h) serine or
- i) threonine or
- j) tyrosine or
- k) arginine or
- l) lysine or
- m) ornithine or
- n) is replaced by a chemical bond,

wherein  $(\text{NH}-\text{X}^2-\text{C}=\text{O})$  is a D- or L-amino acid, preferably

- a) alanine or
- b) valine or
- c) leucine or
- d) isoleucine or
- e) norleucine or
- f) serine or
- g) threonine or
- h) tyrosine or
- i) proline or

- j) citrulline or
- k) arginine or
- l) lysine or
- m) ornithine or
- n) cyclohexylalanine or
- o) cyclohexylglycine or
- p) is replaced by a chemical bond,

wherein (NH-X<sup>3</sup>-C=O) is any arbitrary amino acid, preferably

- a) L-cyclohexylalanine or
- b) D-cyclohexylalanine or
- c) L-cyclohexylglycine or
- d) D-cyclohexylglycine,

wherein (NH-X<sup>4</sup>-C=O) is a small amino acid, preferably

- a) L-proline or
- b) D-proline or
- c) is replaced by a chemical bond,

wherein (NH-X<sup>5</sup>-C=O) is any arbitrary amino acid, preferably

- a) L-tyrosine or
- b) D-tyrosine or
- c) L-phenylalanine or
- d) D-phenylalanine or
- e) is replaced by a chemical bond,

wherein (NH-X<sup>6</sup>-C=O) is an amino acid with a basic side chain, preferably

- a) L-arginine or
- b) D-arginine or
- c) L-lysine or
- d) D-lysine or
- e) L-ornithine or
- f) D-ornithine,

wherein Y<sup>2</sup> is either

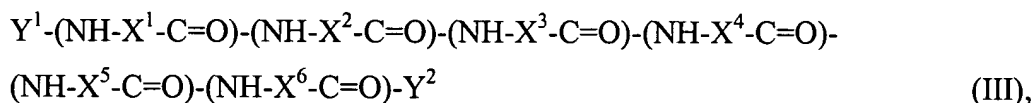
- a) an OH group (the C-terminal amino acid has a terminal carboxylic acid group) or
- b) an amino group (the carboxylic acid group in the C-terminal amino acid is replaced by an amide group) or
- c) a hydrogen (the carboxylic acid group in the C-terminal amino acid is replaced by an aldehyde group) or
- d) 7-amido-4-methylcoumarin (combined through the carboxylic acid group) or
- e) para-nitroanilide (combined through the carboxylic acid group) or
- f) is replaced by a connecting chain containing 1 to 35 atoms,

or is a molecule shortened at the C-terminus and/or at the N-terminus by not less than one amino acid, and pharmaceutically acceptable salts thereof.

27. - 49. (Canceled).

- 50. (Original) A medication, comprising one or more compounds according to claim 26 and a component selected from the group consisting of conventional carriers, auxiliaries, additives, and combinations thereof.
- 51. (Original) A diagnostic composition, comprising one or more compounds according to claim 26.

52. (Original) A method for thrombin inhibition, inhibition of fibrin formation, and for the inhibition of agglutinative thrombus formation in human and animals which method comprises administering an effective amount of a compound according to claim 26.
53. - 55. (Canceled).
56. (Original) A method for thrombin inhibition in humans and animals, which comprises an effective amount of a compound according to claim 26.
57. (Original) A pharmaceutical composition comprising an effective thrombus-preventing amount of a compound according to claim 26 and a pharmaceutically acceptable carrier.
58. (Original) A diagnostic method for thrombin inhibition in humans and mammals, which method comprises administering an effective amount of a compound according to claim 26.
59. (Original) A compound of formula (III)



wherein  $Y^1$  is either

- a) a hydrogen or
  - b) a methyl group or
  - c) an acetyl group or
  - d) is characterized by a backbone consisting of a chain of 1 to 32 carbon atoms,
- wherein  $(NH-X^1-C=O)$  is a D- or L-amino acid, preferably
- a) valine or
  - b) alanine or
  - c) leucine or



- d) isoleucine or
- e) norleucine or
- f) asparagine or
- g) glutamine or
- h) serine or
- i) threonine or
- j) tyrosine or
- k) arginine or
- l) lysine or
- m) ornithine or
- n) is replaced by a chemical bond,

wherein  $(\text{NH}-\text{X}^2-\text{C}=\text{O})$  is a D- or L-amino acid, preferably

- a) alanine or
- b) valine or
- c) leucine or
- d) isoleucine or
- e) norleucine or
- f) serine or
- g) threonine or
- h) tyrosine or
- i) proline or
- j) citrulline or
- k) arginine or
- l) lysine or
- m) ornithine or
- n) histidine or
- o) glutamic acid or
- p) aspartic acid or
- q) tryptophan or

- r) cyclohexylalanine or
- s) cyclohexylglycine or
- t) is replaced by a chemical bond,

wherein (NH-X<sup>3</sup>-C=O) is any arbitrary amino acid, preferably

- a) L-cyclohexylalanine or
- b) D-cyclohexylalanine or
- c) L-cyclohexylglycine or
- d) D-cyclohexylglycine,

wherein (NH-X<sup>4</sup>-C=O) is a small amino acid, preferably

- a) L-proline or
- b) D-proline or
- c) is replaced by a chemical bond,

wherein (NH-X<sup>5</sup>-C=O) is any arbitrary amino acid, preferably

- a) L-tyrosine or
- b) D-tyrosine or
- c) L-phenylalanine or
- d) D-phenylalanine or
- e) is replaced by a chemical bond,

wherein (NH-X<sup>6</sup>-C=O) is an amino acid with a basic side chain, preferably

- a) L-arginine or
- b) D-arginine or
- c) L-lysine or
- d) D-lysine or
- e) L-ornithine or
- f) D-ornithine,

wherein Y<sup>2</sup> is either

- a) an OH group (the C-terminal amino acid has a terminal carboxylic acid group) or
- b) an amino group (the carboxylic acid group in the C-terminal amino acid is replaced by

an amide group) or

- c) a hydrogen (the carboxylic acid group in the C-terminal amino acid is replaced by an aldehyde group) or
- d) 7-amido-4-methylcoumarin or (combined through the carboxylic acid group) or
- e) para-nitroanilide (combined through the carboxylic acid group) or
- f) is replaced by a connecting chain containing 1 to 35 atoms,

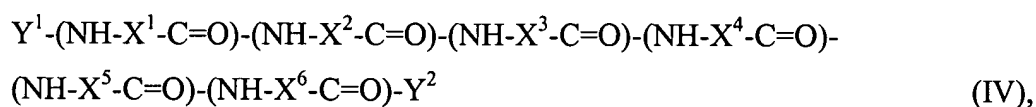
or is a molecule shortened at the C-terminus and/or at the N-terminus by not less than one amino acid, and pharmaceutically acceptable salts thereof.

60. - 81. (Canceled).

- 82. (Original) A medication comprising one or more compounds according to claim 59 a component selected from the group consisting of conventional carriers, auxiliaries, additives, and combinations thereof.
- 83. (Original) A diagnostic composition, comprising one or more compounds according to claim 59.
- 84. (Original) A method for thrombin inhibition, inhibition of fibrin formation, and for the inhibition of agglutinative thrombus formation in humans and animals which method comprises an effective amount of a compound according to claim 59.

85. - 87. (Canceled).

88. (Original) A method for thrombin inhibition in humans and animals, which method comprises administering an effective amount of a compound according to claim 59.
89. (Original) A pharmaceutical composition comprising an effective thrombus-preventing amount of a compound according to claim 59 and a pharmaceutically acceptable carrier.
90. (Original) A diagnostic method for thrombin inhibition in humans and mammals, which method comprises administering an effective amount of a compound according to claim 59.
91. (Original) A compound of formula (IV)



wherein Y<sup>1</sup> is either

- a) a hydrogen or
- b) a methyl group or
- c) an acetyl group or
- d) is characterized by a backbone consisting of a chain of 1 to 32 carbon atoms,

wherein (NH-X<sup>1</sup>-C=O) is a D- or L-amino acid, preferably

- a) valine or
- b) alanine or
- c) leucine or
- d) isoleucine or
- e) norleucine or
- f) asparagine or
- g) glutamine or
- h) serine or
- i) threonine or

- j) tyrosine or
- k) arginine or
- l) lysine or
- m) ornithine or
- n) is replaced by a chemical bond,

wherein  $(\text{NH}-\text{X}^2-\text{C}=\text{O})$  is a D- or L-amino acid, preferably

- a) alanine or
- b) valine or
- c) leucine or
- d) isoleucine or
- e) norleucine or
- f) serine or
- g) threonine or
- h) tyrosine or
- i) proline or
- j) citrulline or
- k) arginine or
- l) lysine or
- m) ornithine or
- n) histidine or
- o) glutamic acid or
- p) aspartic acid or
- q) tryptophan or
- r) cyclohexylalanine or
- s) cyclohexylglycine or
- t) is replaced by a chemical bond,

wherein  $(\text{NH}-\text{X}^3-\text{C}=\text{O})$  is any arbitrary amino acid, preferably

- a) L-cyclohexylalanine or
- b) D-cyclohexylalanine or

c) L-cyclohexylglycine or

d) D-cyclohexylglycine,

wherein (NH-X<sup>4</sup>-C=O) is a small amino acid, preferably

a) L-proline or

b) D-proline or

c) L-azetidine-2-carboxylic acid or

d) D-azetidine-2-carboxylic acid,

wherein (NH-X<sup>5</sup>-C=O) is an aromatic amino acid, preferably

a) L-tyrosine or

b) D-tyrosine or

c) L-phenylalanine or

d) D-phenylalanine,

wherein (NH-X<sup>6</sup>-C=O) is an amino acid with a basic side chain, preferably

a) L-arginine or

b) D-arginine or

c) L-lysine or

d) D-lysine or

e) L-ornithine or

f) D-ornithine or

g) L-homoarginine or

h) D-homoarginine,

wherein Y<sup>2</sup> is either

a) an OH group (the C-terminal amino acid has a terminal carboxylic acid group) or

b) an amino group (the carboxylic acid group in the C-terminal amino acid is replaced by an amide group) or

c) a hydrogen (the carboxylic acid group in the C-terminal amino acid is replaced by an aldehyde group) or

d) 7-amido-4-methylcoumarin or (combined through the carboxylic acid group) or

e) para-nitroanilide (combined through the carboxylic acid group) or

f) is replaced by a connecting chain containing 1 to 35 atoms,

or is a molecule shortened at the C-terminus and/or at the N-terminus by not less than one amino acid, and pharmaceutically acceptable salts thereof.

92. - 116. (Canceled).

117. (Original) A medication, comprising one or more compounds according to claim 91 and a component selected from the group consisting of conventional carriers, auxiliaries, additives, and combinations thereof.

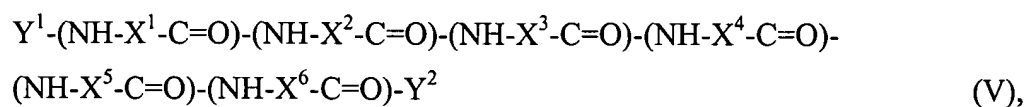
118. (Original) A diagnostic composition, comprising one or more compounds according to claim 91.

119. (Original) A method for thrombin inhibition, inhibition of fibrin formation, and for the inhibition of agglutinative thrombus formation, in humans and animals which method comprises administering an effective amount of a compound according to claim 91.

120. - 122. (Canceled).

123. (Original) A method for thrombin inhibition in human and animals, which method comprises administering an effective amount of a compound according to claim 91.

124. (Original) A pharmaceutical composition comprising an effective thrombus-preventing amount of a compound according to claim 91 and a pharmaceutically acceptable carrier.
125. (Original) A diagnostic method for thrombin inhibition in humans and mammals, which method comprises administering an effective amount of a compound according to claim 91.
126. (Original) A compound of formula (V)



wherein  $\text{Y}^1$  is either

- a) a hydrogen or
- b) a methyl group or
- c) an acetyl group or
- d) is characterized by a backbone consisting of a chain of 1 to 32 carbon atoms,

wherein  $\text{(NH-X}^1\text{-C=O)}$  is a D- or L-amino acid, preferably

- a) valine or
- b) alanine or
- c) leucine or
- d) isoleucine or
- e) norleucine or
- f) asparagine or
- g) glutamine or
- h) serine or
- i) threonine or
- j) tyrosine or
- k) arginine or
- l) lysine or



- m) ornithine or
- n) phenylalanine or
- o) dichlorophenylalanine or
- p) tetrahydronorharman-3-carboxylic acid or
- q) 1,2,3,4-tetrahydroisoquinoline-3-carboxylic acid or
- r) 4-phenylpiperidine-4-carboxylic acid or
- s) thienylalanine or
- t) phenylglycine or
- u) p-nitrophenylalanine or
- v) is replaced by a chemical bond,

wherein  $(\text{NH}-\text{X}^2-\text{C}=\text{O})$  is a D- or L-amino acid, preferably

- a) alanine or
- b) valine or
- c) leucine or
- d) isoleucine or
- e) norleucine or
- f) serine or
- g) threonine or
- h) tyrosine or
- i) proline or
- j) citrulline or
- k) arginine or
- l) lysine or
- m) ornithine or
- n) histidine or
- o) glutamic acid or
- p) aspartic acid or
- q) tryptophan or
- r) cyclohexylalanine or

- s) cyclohexylglycine or
  - t) is replaced by a chemical bond,
- wherein (NH-X<sup>3</sup>-C=O) is any arbitrary amino acid, preferably
- a) L-cyclohexylalanine or
  - b) D-cyclohexylalanine or
  - c) L-cyclohexylglycine or
  - d) D-cyclohexylglycine,
- wherein (NH-X<sup>4</sup>-C=O) is a small amino acid, preferably
- a) L-proline or
  - b) D-proline or
  - c) L-azetidine-2-carboxylic acid or
  - d) D-azetidine-2-carboxylic acid,
- wherein (NH-X<sup>5</sup>-C=O) is an aromatic amino acid, preferably
- a) L-tyrosine or
  - b) D-tyrosine or
  - c) L-phenylalanine or
  - d) D-phenylalanine,
- wherein (NH-X<sup>6</sup>-C=O) is an amino acid with a basic side chain, preferably
- a) L-arginine or
  - b) D-arginine or
  - c) L-lysine or
  - d) D-lysine or
  - e) L-ornithine or
  - f) D-ornithine or
  - g) L-homoarginine or
  - h) D-homoarginine,
- wherein Y<sup>2</sup> is either
- a) an OH group (the C-terminal amino acid has a terminal carboxylic acid group) or

- b) an amino group (the carboxylic acid group in the C-terminal amino acid is replaced by an amide group) or
  - c) a hydrogen (the carboxylic acid group in the C-terminal amino acid is replaced by an aldehyde group) or
  - d) 7-amido-4-methylcoumarin or (combined through the carboxylic acid group) or
  - e) para-nitroanilide (combined through the carboxylic acid group) or
  - f) is replaced by a connecting chain containing 1 to 35 atoms,
- or is a molecule shortened at the C-terminus and/or at the N-terminus by not less than one amino acid, and pharmaceutically acceptable salts thereof.

127. - 162. (Canceled).

- 163. (Original) A medication, comprising one or more compounds according to claim 126 and a component selected from the group consisting of conventional carriers, auxiliaries, additives, and combinations thereof.
- 164. (Original) A diagnostic composition, comprising one or more compounds according to claim 126.
- 165. (Original) A method for thrombin inhibition, inhibition of fibrin formation, and for the inhibition of agglutinative thrombus formation in human and animals, which method comprises administering an effective amount of a compound according to claim 126.

166.-168. (Canceled).

169. (Original) A method for thrombin inhibition in human and animals, which method comprises administering an effective amount of a compound according to claim 126.
170. (Original) A pharmaceutical composition comprising an effective thrombus-preventing amount of a compound according to claim 126 and a pharmaceutically acceptable carrier.
171. (Original) A diagnostic method for thrombin inhibition in humans and mammals, which method comprises administering an effective amount of a compound according to claim 126.